

Pexgol Overcomes Extreme Dewatering Conditions in La Ciénega



A high-precision maneuver enabled the complete assembly of the system in record time, ensuring safety and operational continuity.



Fresnillo Plc.
Mexico | 2025

• Working Conditions

Temperature: 20°C (68°F)
Flow rate: 45 m³/h
Pressure: 440 psi
Fluid components: mine water with traces of chlorides, sulfates, calcium, magnesium, and iron

• Pexgol Pipe

Pexgol 6" SDR 6, Pexgol 6" SDR 15

• Application

Dewatering

• Length

2000 m / 6561 ft

The Challenge

At Fresnillo plc's La Ciénega mining unit, located in Mexico, it was necessary to implement an underground dewatering system to transport water between two shafts spaced 150 meters horizontally and 240 meters vertically, using a single pump.

The project conditions were extremely demanding: the fluid—mine water with traces of chlorides, sulfates, calcium, magnesium, and iron—posed a high risk of corrosion and wear for conventional materials. Additionally, the installation had to be carried out through the ventilation tunnel (Robbins), which could only be temporarily stopped, leaving very limited time to complete the task.

Conventional solutions, such as steel or HDPE pipes, presented significant challenges in this type of application: difficult handling, numerous joints and long assembly times, added to the vulnerability of steel to corrosion under high pressure (440 psi) and the presence of abrasive minerals.

The Solution

Given these conditions, the Pexgol system was selected as the ideal alternative due to its resistance to abrasion, flexibility, and ease of installation. The installation included 500 meters of 6" SDR 6 (Class 30) Pexgol pipe and 1,500 meters of 6" SDR 15 (Class 11) pipe, supplied in long coils to reduce joints and ensure maximum safety and durability.

The pipe coil was transported to the mine entrance using a utility truck, and the maneuver required securing the line to the Robbins ventilation tunnel in a controlled reverse-feed process, guaranteeing correct alignment and minimizing potential failure points.

Due to the site's operational restrictions—such as limited overhead space and the need to keep ventilation running—the full 500-meter installation was completed in record time, without incidents and in full compliance with mining safety standards.

Thanks to Pexgol's on-site technical support, the contractor successfully executed the installation of this high-complexity system and completed the assembly within schedule. The result was a fast, safe, and highly reliable operation, demonstrating once again the robustness and performance of Pexgol systems in underground mining environments.



The Advantages of Pexgol Pipe Systems



High resistance to wear

Pexgol is the preferred solution for abrasive materials transportation. Typically resists three times more than HDPE and twice more than steel.



Superb internal and external corrosion resistance

Our pipes are proven to withstand decades of exposure to corrosive environments, with nonstop performance in some of the world's harshest environments.



Excellent chemical and corrosion resistance

Pexgol pipes can resist a wide range of chemical agents, slurries, toxic and radioactive materials.



Long pipe sections

Pexgol pipes can be supplied in long coil lengths, reducing number of joints, installation time and risks.



High temperature resistance

Working temperatures can range from -50°C / -58°F up to 110°C / 230°F .



Creep and impact resistance

Pexgol pipes can withstand high amounts of axial and radial stresses and are highly resistant to impact, fracture and fatigue. Furthermore, Pexgol pipes are completely resistant to cracks even when dragged over sharp rocky terrain and coagulated salt crystals.

For more information please visit:
pexgol.com

